



Association of Metropolitan Water Agencies

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Testimony

on

Aging Water Supply Infrastructure

before the

**Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives**

by

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on behalf of the

Association of Metropolitan Water Agencies

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Good afternoon. My name is Jerry Johnson. I am the General Manager of the District of Columbia Water and Sewer Authority and a member of the Board of Directors of the Association of Metropolitan Water Agencies, on whose behalf I am testifying today.

Thank you for inviting us to testify and for your interest in water and wastewater infrastructure. The subcommittee has been very active in moving legislation to increase infrastructure funding, and it is much appreciated.

The District of Columbia Water and Sewer Authority (DCWASA) was created in 1996 in place of the city department that had operated the water and sewer system until then. DCWASA is a regional utility that provides drinking water, wastewater collection and treatment to more than 500,000 residential, commercial and governmental customers in the District of Columbia. DCWASA also collects and treats wastewater for 1.6 million customers in Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia.

The Association of Metropolitan Water Agencies (AMWA) is a nonprofit organization of the largest publicly owned drinking water systems in the United States.

Drinking Water and Wastewater Infrastructure Needs

As you know, the infrastructure needs confronting the nation's drinking water and wastewater systems are enormous. The Water Infrastructure Network (WIN) report, *Clean & Safe Water for the 21st Century*, and its follow up, *Water Infrastructure Now: Recommendations for Clean and Safe Water in the 21st Century*, estimate that drinking water utilities across the nation collectively need to spend about \$24 billion per year for the next 20 years on infrastructure, for a total of \$480 billion. WIN's analysis also concluded that drinking water systems currently spend \$13 billion per year on infrastructure, leaving an \$11 billion annual gap between current spending and overall need. That is just for drinking water. The WIN reports also estimate that wastewater systems collectively need to spend about \$22 billion per year over the next 20 years. With current spending at \$10 billion per year, wastewater systems anticipate a funding gap of \$12 billion per year.

In the Environmental Protection Agency's 2002 infrastructure gap analysis, the agency estimated that drinking water systems will spend \$154-446 billion through 2019. Wastewater systems will spend \$331-450 billion over the same period, according to EPA.

According to a 2002 survey by AMWA, 32 metropolitan systems alone reported that they must spend \$27 billion over the next five years on drinking water and wastewater infrastructure. For instance, Cleveland, Ohio must spend up to \$700 million; Columbus, Ohio, \$253 million; New Orleans, \$1.2 billion; Kansas City, Mo., over \$500 million; Denver, \$363 million; Chicago, \$600 million; Austin, \$568 million; Phoenix, \$1.28 billion; and Omaha, Nebraska, \$355 million. In 2002, Detroit reported that its capital expenditures for drinking water projects would be \$1.4 billion over the next five years and \$2.9 billion would be spent for wastewater projects.

In Washington, D.C., we have increased capital spending in the years following DCWASA's creation from \$38 million in FY1996 to more than \$200 million per year today. The Authority's 10-year capital improvement plan totals almost \$1.8 billion. Furthermore, DCWASA will be required to spend an additional \$1.265 billion to meet EPA's combined sewer overflow (CSO) requirements.

The total length of pipe for water mains in the United States is nearly 900,000 miles, according to the American Water Works Association Research Foundation (AwwaRF). The most commonly used pipe material today is ductile iron, followed by PVC and then by concrete pressure pipe. Iron is the most expensive material, while PVC is the least expensive.

Age is the primary reason we are confronted with such high estimates of infrastructure spending needs. From the late 1800s to the late 1960s, most water mains were made of cast iron. Now much of that pipe has reached the end of its life, and water systems are more often experiencing main breaks and water loss. AwwaRF estimates there are approximately 238,000 water main breaks each year and, on average, water systems lose ten percent of their treated drinking water, mostly due to deteriorated pipes.

Regulatory mandates are another reason for such high infrastructure spending needs. New drinking water regulations to remove arsenic from drinking water and to control microbial

contamination and disinfection byproducts will better protect public health, but they come with enormous costs. And in addition to other infrastructure spending, wastewater agencies will need to spend \$50 billion over the next 20 years to comply with CSO regulations, according to EPA. According to the Association of Metropolitan Sewerage Agencies, wastewater agencies are already spending tens of billions per year to comply with sanitary sewer overflow (SSO) requirements and could be required to spend hundreds of billions more, depending on EPA's plans for wet weather regulations.

Lead Service Line Replacement

Another infrastructure cost item facing water systems is the replacement of lead service lines, which are the smaller pipes running from the water mains to the customers' houses. Lead service lines were commonly used because they were relatively less expensive than other options and very malleable. In 1897, about half of all American municipalities had lead services lines. When they are still found, they are connected to very old homes. According to a 2002 survey by the American Water Works Association (AWWA), 56% of existing customer service lines are made of copper. Only 3.3% are made of lead.

According to a 1994 AwwaRF report, there were, at that time, 2.3 to 5.1 million lead service lines in use in the United States. The estimated national cost to replace the lead service lines under the control of both the utilities and homeowners was \$10-14 billion in 1994 (or \$12.3-17.5 billion in 2003 dollars).

Here in D.C., we estimate the cost of replacing lead service lines in public space (the portion DCWASA is responsible for) to be in the range of \$300-350 million. We estimate that the cost of replacing lead services lines under the control of homeowners, the portion that rests in private space, would be another \$60-80 million.

Water Security

Compounding these financial burdens are the looming investments local water agencies will be forced to make to help protect their facilities and consumers from potential terrorist attacks. The American Water Works Association estimates that water systems will need to spend approximately \$1.6 billion on immediate next steps. These steps include fencing around facilities and reservoirs, security doors and locks, intruder alert systems, better lighting, surveillance cameras to monitor entry ways and sensitive facilities, access control and barricades around key facilities. Some systems already have some or all of these measures in place, while others are in the process of installing them.

According to security consultants in the water sector, studies of 17 large utilities project overall security costs ranging from \$750,000 to \$91 million, averaging \$15.5 million. AMWA roughly estimates that water systems will spend an average of \$8 to \$11 per individual in a service area to improve security. Another study by security consultants estimates that the 450 drinking water systems in the United States serving 100,000 or more people will have to spend approximately \$1.2 billion to harden their facilities against possible attacks.

Metropolitan Water Systems

Most federal drinking water assistance is reserved for smaller water systems, and we encourage Congress to increase its assistance to metropolitan systems – systems serving 100,000 people or more. Programs at USDA serve only rural systems, and EPA's drinking water state revolving fund is primarily used to resolve regulatory compliance problems at small systems. According to EPA, metropolitan systems received only 5% of drinking water SRF assistance, even though these systems accounted for 20% of the estimated needs. Thirty states do not provide any assistance to metropolitan systems.

There are two key reasons why metropolitan water systems do not benefit from the drinking water SRF. First, the Safe Drinking Water Act directs drinking water SRF funding to systems unable to meet drinking water regulations and protect public health. The more common problem metropolitan systems face is simply the need to replace aging infrastructure. And while aging infrastructure can contribute to public health concerns, the drinking water SRF primarily assists small systems facing acute problems. The second reason metropolitan systems do not benefit from the drinking water SRF is that there just isn't enough money in the program.

Even while the drinking water SRF program is authorized at the relatively modest amount of \$1 billion, EPA has not asked for and Congress has not appropriated more than \$850 million for the program. Similarly, each year EPA reduces the amount of funding it requests for the clean water SRF, leaving Congress to boost the level to \$1.3 billion. Still, this is not enough.

Solutions

A lack of increased federal infrastructure funding risks jeopardizing public health. Safe drinking water is the first line of defense against deadly waterborne viruses, and adequate infrastructure is the key component in the effort. Similarly, with increased funding, water systems will endure fewer main breaks. Inadequate funding for wastewater infrastructure will result in rivers and lakes that are unsuitable for fishing, swimming and as sources of drinking water; reduced property values; and sewage-contaminated beaches.

To pay these large infrastructure costs, drinking water and wastewater systems across the country will need to rely on a multi-pronged approach consisting of rate increases; federal and state funding; asset management; consolidation and regionalization; and more efficient use of water, among others.

Water rates are increasing all over the country, but household budgets can only absorb so much. Publicly owned utilities are also becoming more efficient, and most are engaged in asset management programs to help prepare for the future. Instead, significant investments must come from the muscle of the nationwide economy through a long-term funding source. An expanded national commitment would account for the external costs ensured by utilities, such as the cost to treat nonpoint source agricultural pollution, MTBE or perchlorate from defense facilities, and the downstream benefits of clean and safe water.

EPA's solution to the infrastructure crisis is to encourage administrative improvements at utilities. This and rate increases will help to some extent, but they will never be enough. That's why AMWA and its 50 other coalition partners in the Water Infrastructure Network strongly urge Congress to pass bipartisan legislation to significantly increase federal assistance to drinking water and wastewater systems, particularly those serving metropolitan areas.

Not only will increased federal assistance help protect public health and the environment, but it will also increase jobs. According to government leaders, about 47,500 jobs are created for every \$1 billion spent on infrastructure in the United States.

We appreciate your attention to the serious matter of drinking water and wastewater infrastructure, and we hope that you and your colleagues in the House and Senate can develop a mutually acceptable proposal for the sake of safe drinking water; clean rivers, lakes and beaches; and American jobs.